REMARKS/ARGUMENTS

Applicants acknowledge and appreciate the Examiner's indication that Claims 27-32 are allowed and of allowable subject matter in claims 5-6 and 19-22. Claims 23-26 are withdrawn. Twenty-eight (28) claims remain pending in the application: Claims 1-22 and 27-32. Reconsideration of the claims, in view the comments below, is respectfully requested.

Affirmation of Election/Restriction

Applicant affirms the previously-made provisional election of the Group I invention, Claims 1-22 and 27-32.

Applicants' Invention

As indicated in the specification, page 3, lines 3-8, Appicants' invention provides "a fully implantable cochlear prosthesis that includes (1) an implantable hermetically sealed case wherein electronic circuitry, including an implantable microphone, are housed, (2) an active electrode array that provides a programmable number of electrode contacts through which stimulation current may be selectively delivered to surrounding tissue, and (3) a connector that allows the active electrode array to be detachably connected with the electronic circuitry within the sealed case."

A key feature of Applicants' invention is that "the active electrode array provides a plurality of groups of electrodes, . . . any one of which may be selected to apply a stimulus pulse through active switching elements included within the array, preferably through the use of Stimulation Groups." Specification, page 3, lines 9-13.

Thus, it is seen that the active switching elements which are included as part of claimed "active electrode array" are included within the active electrode array, and are thus external to the hermetically sealed case. This allows a reduced number of feed-through terminals to be used in order to make needed electrical contact between the switching circuitry and electrodes of the active electrode array and the electronic circuitry within the hermetically sealed case. This feature represents a significant advance in the art that is not shown or suggested in the prior art. See, e.g., FIG. 2, and related text, wherein the representative active electrode array includes just five feed-through connectors 15, and yet provides 4 simultaneous contacts, and may employ 16 electrode contacts with 4 banks of 4 electrodes, 32 electrode contacts with 4

banks of 8 electrodes, or 64 electrode contacts with 4 banks fo 16 electrodes. With only five contacts, the number of wires needed in the active electrode array is reduced over what has previuously been required, and this also allows the wire gauge to be increased, all of which improves reliability and enhances surgical use of the array. Specification, page 9, lines 1-4.

Hence, it is important to recognize that the "active electrode array" claimed by Applicant is not like electrode arrays of the prior art. Rather, Applicants' "active electrode array" includes active switching elements that allow switching to occur so that a stimulation signal, present on one of the wires within the electrode array, can be directed, or switched, by the switching circuitry included within the active electrode array, to an appropriate electrode contact. In contrast, prior art electrode arrays are "passive", meaning that no switching function occurs within the electrode array; rather each electrode contact must have its own wire associated therewith, which must in turn be connected through its own feed through terminal to circuitry within the hermetically sealed case, all of which dramatically increases the number of wires that must be included within the electrode array and the complexity of the mechanical configuration of the feed through terminals.

Independent Claims 1 and 16 have been amended to clarify the above-described important distinction between Applicants' claimed invention and the prior art. Thus, as amended, Claim 1 and 16 clarify that the "active electrode array", including its switching circuitry, is external to the hermetically sealed case.

Claim Objections

The Examiner objected to informalities present in Claims 2, 10 and 18, and indicated that appropriate correction was required. By way of the present amendment, these informalities have each been corrected.

Claim Rejections under 35 U.S.C. §§102 and 103

The Examiner rejected Claims 16-18 under 35 U.S.C. §102(b) as being anticipated by Loeb et al. (5,649,970). This rejection is overcome because Loeb et al. does not show an active electrode array, including switching circuitry, that is external to the hermetically sealed case, as required by Applicants' claims. That which the Examiner claims is an active electrode array (FIGS. 5-7 in Loeb et al.) is not an "active electrode array", as that term is used by Applicants to define the present application, because there are no switching elements outside of

the electronic circuitry 42 (FIG. 8), all of which electronic circuitry must inherently be housed within an hermetically sealed enclosure. Loeb et al. describe the electrode array 10 as including a single, elongate electrode contact 20 and N individual electrode contacts 14, thus requiring N+1 wires within the array. Col. 11, lines 23-27. See also FIG. 5. The electrode array described in Loeb et al. represents just one particular embodiment of a "passive electrode array". Col. 14, line 31. If the electrode array of Loeb et al. were an "active electrode array", then fewer than N+1 wires could be used to make contact with the N+1 electrode contacts.

The Examiner also rejected Claims 1-4 and 7-15 over various combinations of Loeb et al. (5,649,970), Muller (5,814,095), Kuzma (5,105,811), Soykan et al. (6,236,889), and Faltys et al. (6,289,247) under 35 U.S.C. §103. These rejections are all overcome, it is submitted, because none of this prior art shows, teaches or suggests an "active electrode array", including switching circuitry, that is external to the hermetically sealed case. An "active electrode array", as Applicant uses that term, and as described in Applicants' specification, requires that switching circuitry be built-in to the electrode array. Hence, even if the various combinations of prior art were combined in the manner suggested by the Examiner, all such combinations would still fall far short of Applicants' claimed invention, because Applicants' claimed invention requires an active electrode array, which active electrode array includes switching circuitry built into the array.

In view of the foregoing remarks and amendments, it is respectfully submitted that the rejections have been overcome and that the previously-rejected pending claims are in condition for allowance. An early indication of allowability of the previously-rejected pending claims, Claims 1 - 22, to accompany the already-given indication of allowability with respect to Claims 27-32, is earnestly solicited.

Respectfully Submitted,

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